

## ABSTRACT

A method and apparatus for accurately determining the interior profile of cylindrical objects such as reformer catalyst tubes is described. The radius of the tube is measured from the axis of the tube for each point of the interior surface by calculating the angle of a reflected light beam and the deviation thereof. A first embodiment reflects a light beam off of the interior surface of the cylinder and measures the angle of the light reflected from the interior of the cylinder. A second embodiment removes rotating parts by using a cone mirror to reflect a ring of light onto the interior of the cylinder. Signal processing means are provided to reduce surplus signals allowing transmission of only useful information.